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FLECAINIDE PROVIDES SAFE THERAPY FOR SUPRAVENTRICULAR TACHYARRHYTHMIAS

Michael M. Hughes, M.D., Tony W. Simmons, M.D., F.A.C.C., Richard G. Trohman, M.D., F.A.C.C., Lon W. Castle, M.D., F.A.C.C., Bruce L. Wilkoff, M.D., F.A.C.C., Victor A. Morant, M.D., James D. Maloney, M.D. F.A.C.C. Cleveland Clinic Foundation, Cleveland, OH

Concerns about the safety and efficacy of Class IC antiarrhythmics have arisen as a result of recent CAST data. We reviewed records of 175 consecutive patients (pts) treated with flecainide between 7/1/88-7/5/89. 110 pts with normal or mildly impaired LV function and symptomatic supraventricular tachyarrhythmias (SVT) were identified. 102 of these 110 pts were followed for 15 days to 43 months (mean follow-up 14m). Coronary artery disease was documented in 29% of these patients. Seven patients had a remote myocardial infarction (MI) and 1 patient had an MI within 6 weeks of initiating therapy. Flecainide doses ranged from 100-400 mg/day (average dose 244 mg/day). Duration of therapy was 13 months. Arrhythmias treated were atrial fibrillation/flutter (90%), circus movement tachycardia (7%), and atrioventricular nodal reentry (3%). Flecainide provided effective antiarrhythmic therapy in 63% of patients. Flecainide was discontinued in 37% of patients. Reasons for discontinuation included: 1) CAST data (9 pts), 2) treatment failure (6 pts), 3) side effects (5 pts), 4) successful His ablation procedure (3 pts), 5) proarrhythmia (2 pts), 6) unknown reasons (13 pts). There were no deaths during the duration of follow-up.

Conclusions: Flecainide provides safe and effective treatment of SVT in patients with normal or mildly impaired LV function.

A MULTICENTER, PLACEBO CONTROLLED TRIAL OF CONTINUOUS INTRAVENOUS DILTIAZEM INFUSION (IV DILT) FOR TWENTY-FOUR HOUR RATE CONTROL DURING ATRIAL FLUTTER/FIBRILLATION (Afl/Afib).

Kenneth A Ellenbogen, MD, FACC, Virgil C Dias, Pharm. D., Vance J Plumb, MD, FACC, J Thomas Heywood, MD, David M Mirvis, MD, FACC, Liquat Zaman, MD, FACC, Jan Christy-Bittel, RN, and Co-Investigators, V.A. Med. Ctr., Med. Coll. of VA, Richmond, VA; and Marion Labs, Kansas City, MO

Afl/Afib are common arrhythmias that may be accompanied by significant symptoms when the ventricular response is rapid. Prompt and sustained rate control is often necessary, prior to initiation of definitive therapy. We administered a 24 hour continuous infusion of IV DILT (n=23) or placebo (n=21) to patients (PTS) with Afl/Afib who first responded to open-label bolus dose(s) of IV DILT. None of the placebo patients (0/21) versus 74% (17/23) of the IV DILT pts maintained response for 24 hours (HR < 100 b/min or $\geq$ 20% decrease from baseline), ($p<0.001$). After IV DILT bolus, mean heart rate (HR) decreased from 130 b/min to 94 b/min and stayed between 71-93 b/min during 24 hour IV DILT infusion. Symptoms (palpitations, dyspnea, weakness) associated with Afl/Afib were generally improved in IV DILT responders. No significant untoward side effects were noted.

We conclude a 24 hour continuous IV DILT infusion may be safely administered to PTS with Afl/Afib and can achieve and maintain heart rate control in most PTS. IV DILT may provide a "bridge" in these PTS awaiting definitive treatment for this arrhythmia.

PIRMENOL VERSUS PROPAFENON IN THE TREATMENT OF POTENTIALLY MALIGNANT ARRHYTHMIAS

Manfred Zehender,MD, Thomas Meinertz,MD, Annette Geibel,MD, Stefan Hohnloser,MD, Hanjörg Just,MD. Dept. of Cardiology, Univ. Freiburg, FRG.

The efficacy and safety of pirmenol (PI, IA antiarrhythmic) and propafenone (PO) were compared in a double-blind, randomized study on 258 pts (4-week dose finding period*,6-month follow-up**). All pts had >30 symptomatic ventricular premature beats/h (VPB), 197 pts pairs/tachycardia (VP/VT) during placebo period (2 weeks, two 24h-Holter ECG (H). After baseline diagnostic, pts were controlled for 24h-H,ECG,plasma level, adverse events (AEs) at -2,-1,0,2,4,6,12,24 weeks of therapy (Responders,R= suppression of VPB >75%,-VP>90%,VT=100%). Analysis covers 142 pts who completed 6-month follow-up. During dose titration the incidence of R was 47% (PI200mg) and 68% (PI200/400mg), comparable to 35% (PO450mg) and 61% (PO450/600mg). Arrhythmia suppression, proarrhythmia:

	PI 200/400 mg					PO 450/600mg				
weeks	2	4	6	12	24	2	4	6	12	24
VPB (-%)	67	84	89	87	93	50	71	83	88	86
VP/VT (-%)	91	92	98	100	100	91	94	96	98	100
VPB+>400%	3/73*		0/73**			1/69*		0/69**		
VP/VT+>200%	6/73*		5/73**			5/69*		6/69**		

AEs reported >5.0% were: dizziness (PI9%/PO8.7%), insomnia (4.5/6.3), headache (5.3/5.6), nausea/ vomiting (4.5/5.6), abd.pain (3.0/6.3). 5 pts died with PO, no pt with PI during the follow-up.
PI provides a new alternative of an class IA agent, similar effective as the class Ic agent PO.

THE WAVELENGTH INDEX (WLI) IN VITRO - A POTENTIALLY USEFUL PREDICTOR OF ANTIARRHYTHMIC DRUG EFFECTS ON REENTRY?

Suzanne Ranger, B.Sc., Stanley Nattel, M.D., F.A.C.C., Montreal Heart Institute, Montreal, Canada.

Most classification systems of antiarrhythmic agents are based on changes in APD and $\dot{V}_{max}$, but there is no quantitative way to relate such changes to effects on reentrant arrhythmias. The wavelength, λ, is a good predictor of drug effects on atrial arrhythmias in vivo (Circ Res 58:96,1986), but requires precise measurement of refractory period (RP) and conduction velocity (CV). Since λ (=RPxCV) is the shortest pathlength allowing reentry, decreases in λ favour reentry and increases are antiarrhythmic. We studied the effects of class I and III drugs on the wavelength index (WLI= APDx$\sqrt{\dot{V}_{max}}$), based on assumed linear relations between APD and ERP, $\sqrt{\dot{V}_{max}}$ and CV. Rate-dependent changes in λ and WLI caused by quinidine (Q), lidocaine (L), flecainide (F) and sotalol (S) in canine cardiac Purkinje fibers were measured using two microelectrodes.

Results: F decreased λ (30±9%, M±SD) and WLI (24±7%) at cycle length (CL) 300 msec, consistent with its tachycardia-dependent arrhythmogenic action. S increased λ and WLI at all CL (eg. 19±11%, 20±10%, CL 1000), L decreased λ and WLI slightly, and Q had variable effects on λ; these changes are compatible with the beneficial effects of class III and variable effects of IA drugs on reentrant arrhythmias. For all drugs, changes in λ were closely reflected by WLI (regression slope = .98, intercept = .02, r = .92).

We conclude that the WLI, based only on changes in APD and $\dot{V}_{max}$, agrees closely with directly measured changes in λ, and may be a useful in vitro predictor of drug effects on reentrant arrhythmias.